

Applicant: Katrina Schmidt
Application Serial No.: 10/644,450

REMARKS

Claims 26-29, 31, 34, 36-42, and 44 remain in this application with claims 26 and 39 in independent form. Claims 26 and 39 have been amended. Claims 1-25, 27, 30, 32-33, 35, 40, 43, and 45-46 have been cancelled. No new matter is believed to be introduced by way of these amendments.

Applicants appreciate the teleconference conducted with Examiner Cooney on January 30, 2007 even though an agreement was not reached. The substance of the interview has been incorporated into the subject amendment and, as discussed, claims 27 and 40 have been incorporated into their respective independent claims. More specifically, the isocyanate index has been amended to recite an isocyanate index of from 25 to 60. Thus, the following remarks are directed toward the previous rejection of these claims. It is respectfully submitted that these amendments, in combination with the following remarks, place the application in a condition for allowance.

Claims 1, 3-4, 6, 8-11, 13-14, 16-19, 21-29, 31, 34, 36-42, and 44 stand rejected under 35 U.S.C. §103(a) as being unpatentable over United States Patent No. 5,340,900 to Spitzer et al. The Examiner contends that Spitzer et al. discloses preparations of polyurethane products meeting the claims of the subject application. However, the Examiner acknowledges that Spitzer et al. differs from the current claims in that the claimed ranges of the first polyol do not correspond exactly with the ranges disclosed in Spitzer et al. Further, the Examiner states that Spitzer et al. differs from the current claims in that Spitzer et al. does not disclose the densities of the polyurethane foam as claimed. The Examiner relies on the

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disclosure of a blowing agent within Spitzer et al. for a teaching that it would have been obvious to control the amount of the blowing agent to arrive at the claimed densities.

Moreover, referring to the claimed isocyanate index values of original, dependent claims 27 and 40, the Examiner cites *Titanium Metals v. Banner*, 27 USPQ 773, and Manual of Patent Examining Procedure (MPEP) §2144.05 for the statement, "it has long been held that a *prima facie* case of obviousness has been held to exist where the proportions of a reference are close enough to those of the claims to lead to an expectation of *similar* properties." [emphasis added]

Applicant respectfully submits that MPEP §2144.05, in fact, states,

Similarly, a *prima facie* case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the *same* properties. *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985) (Court held as proper a rejection of a claim directed to an alloy of "having 0.8% nickel, 0.3% molybdenum, up to 0.1% iron, balance titanium" as obvious over a reference disclosing alloys of 0.75% nickel, 0.25% molybdenum, balance titanium and 0.94% nickel, 0.31% molybdenum, balance titanium.) [emphasis added].

Thus, *Titanium Metals* holds that the *same* properties are to have been expected, not similar properties. Spitzer et al. is directed toward a hardener for the production of polyurethane shaped articles. Spitzer et al. further discloses utilizing an isocyanate number, or index, in a customary amount. Spitzer et al. specifically states:

The reaction mixtures according to the invention comprise the polyisocyanate in the customary amount, in general corresponding to an isocyanate number (quotient of the number of isocyanate groups and the number of groups which can react with isocyanate groups in the reaction mixture, multiplied by 100) of between *70 and 130, preferably corresponding to an isocyanate number of between 90 and 110*. A primary amino group here again corresponds to a hydroxyl group. (See col. 7, lines 55-63). [emphasis added]

Referring now to independent claims 26 and 39, as amended, both claims require that the resin component and the isocyanate component be reacted at an isocyanate index of from 25 to 60. As discussed in paragraph [0027] of the specification as originally filed, when the resin component and the isocyanate component are reacted as set forth above, the primary amine groups are present in an amount such that unreacted hydroxyl groups remain in the foam. These unreacted hydroxyl groups surprisingly reduce and/or eliminate dripping when the polyurethane foam is burned. The polyurethane foam thus meets various flammability safety standards that were previously unlikely. The reduced dripping has not been previously been possible with polyurethane foams that have a lower density, especially when sprayed at volumetric ratios of 1:1, and as such the prior art low density foams do not meet the various flammability safety standards.

Applying *Titanium Metals*, Spitzer et al. discloses customary amounts for the isocyanate index of from 70 to 130. In contrast, the subject invention now claims an isocyanate index of from 25 to 60. *Titanium Metals* requires the claimed ranges and prior art ranges to be close enough that one skilled in the art would have expected them to have the *same* properties. Spitzer et al. does not rely on the isocyanate index for any properties, whereas the subject invention requires the isocyanate index at the claimed ranges to provide the advantageous properties described. Thus, one of ordinary skill in the art would not have expected Spitzer et al. and the subject invention to have the *same* properties. Hence, *Titanium Metals* is not applicable to the claims as now presented. Moreover, there is no

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teaching, suggestion, or motivation to modify Spitzer et al. to have an isocyanate index of from 25 to 60.

Further, existing precedent provides guidance for establishing a motivation to modify a reference or references. In particular, “[t]he motivation to modify the prior art must flow from some teaching in the art that suggests the desirability or incentive to make the modification needed to arrive at the claimed invention.” *Alza Corp. v. Mylan Laboratories Inc.*, 391 F.3d 1365 (Fed. Cir. 2004). While there is presently flux in the manner in which motivation to modify or combine references can be established, the United States Patent and Trademark Office has recently issued its position as evidenced by the Memorandum from Margaret A. Focarino, Deputy Commissioner for Patent Operations, on the Supreme Court decision on *KSR Int’l Co. v. Teleflex, Inc.*, dated May 3, 2007 and attached as Exhibit A for the Examiner’s convenience. In the Memorandum, it states that it remains necessary to identify the reason why a person of ordinary skill in the art would have combined the prior art elements (or, in this instance, modify a reference) in the manner claimed.

The subject invention is directed toward polyurethane spray foam systems. It is to be appreciated that polyurethane spray foam systems have unique requirements for pre-processing and post-processing, as set forth in the detailed description as originally filed. Examples of such unique requirements include dripping while spraying, dripping when burning, and low flame spread. Spitzer et al. does not disclose, teach, or suggest a resin for use in a polyurethane spray foam system. On the contrary, Spitzer et al. is directed toward polyurethane shaped articles that are formed in a mold by way of mechanical casting (see col. 11, lines 16-20), i.e., not a polyurethane spray foam system. As such, one of ordinary skill in

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the art would not be motivated to modify Spitzer et al. without relying on impermissible hindsight to arrive at a polyurethane spray foam system as claimed in the subject invention.

As such, the §103 rejection is overcome and claims 26 and 39 are believed to be allowable. Claims 28-29, 31, 34, 36-38, 41-42, and 44, which depend directly or indirectly from these independent claims, are also believed to be allowable.

Accordingly, it is respectfully submitted that the Application, as amended, is now presented in condition for allowance, which allowance is respectfully solicited. Applicant believes that no fees are due, however, if any become required, the Commissioner is hereby authorized to charge any additional fees or credit any overpayments to Deposit Account 08-2789.

Respectfully submitted

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May 26, 2007
Date

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